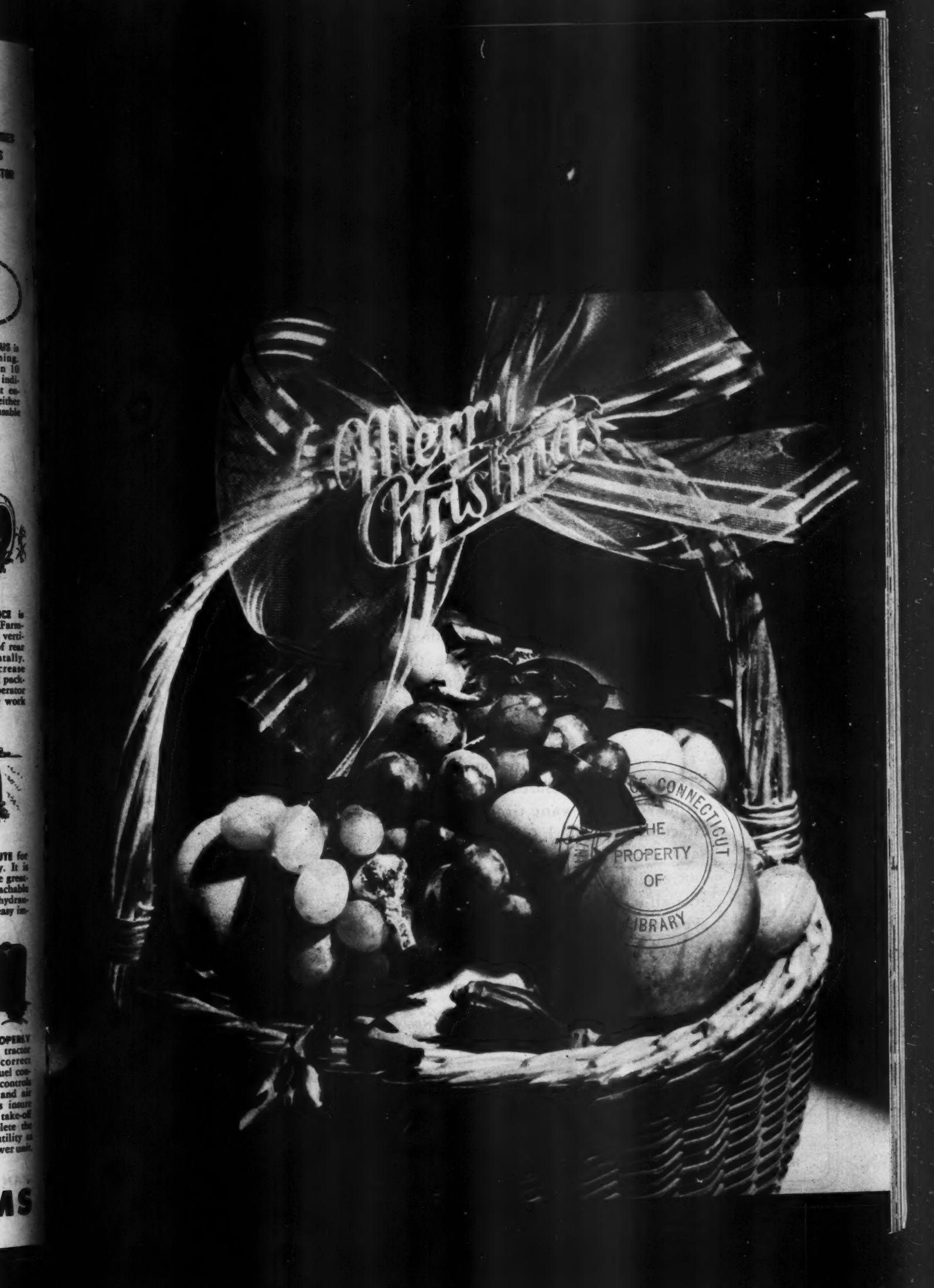
Merry Christmas
CONNECTICUT
THE
PROPERTY
OF
LIBRARY

Vol. 64, No. 12. AMERICAN FRUIT GROWER, published monthly by American Fruit Grower Publishing Co., 1370 Ontario St., Cleveland 13, Ohio. Subscription rates: Domestic, except Cleveland, 3 years $1.00. One year, 50 cents. Cleveland, Canada and foreign, $1.00 per year. Single copy, 10 cents. Entered as second-class matter at Post Office at Cleveland, under the Act of March 3, 1879. Additional entry at Mount Morris, Illinois. Printed in U. S. A.

"It takes a real sprayer to keep that up all day"

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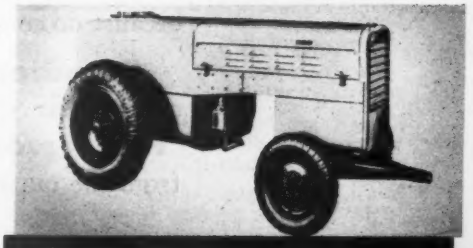

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Easiest to Maintain in Working Order--
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Sizers and Cleaners for every need—from large commercial equipment to small growers' models.

LETTERS TO THE EDITOR

Normandy Report

Dear Gil:

I was glad to get your letter and to hear about the success of your peach crop. Fresh fruit over here is hard to get and your peaches would have received even a better price than those I saw in England, priced $2 per piece.

One thing which has amazed me since being in both France and England is the backward methods, used in both countries. It's not unusual here in Normandy, which is the richest agricultural section in France, to see farmers going into the fields on the backs of donkeys, with a couple of brass milk pails slung over each side. Here they go out to see the cows instead of making the cows come to the barn.

Yesterday I saw four old Frenchmen, working the darndest, oldest, cider press I've ever seen. They were pushing a long pole, attached to a wheel which screwed down the press.

Apple orchards are run the same way, being mostly a few trees in small fields, separated by thick hedgerows in which dirt has been thrown for the last four or five centuries. This forms a wall which is three or four feet high. There are no varieties here which even remotely resemble any of our better eating apples. The apples are all very small and thick-skinned. When the apples fall from the trees, they are gathered in one spot in the orchard and later used for cider.

Our orderly room is located under an apple tree and every once in a while an apple falls from the tree, bounces off the roof, and falls to the ground. Enough fall to make an American fruit grower have nightmares. What a market for harvest sprays!

Of course, a lot can be said for the French who have no labor, no materials, no gasoline, no electricity, and who probably do a better job during peace time. Their job is further complicated by the fact that the fields all through this section have been thoroughly mined. Some fields have not yet been de-mined and it is a sure bet that it will be years before they are.

Best regards,

Normandy, France. Dick.

Well, Lt. Richard T. Meister, Field-Editor-of-AMERICAN FRUIT GROWER-on-leave, we are mighty glad to receive firsthand information on the fruit growing situation in France. Thanks a lot and write again.

By the way, be sure that one of those apples doesn't bounce on your head because we and our readers want you back here in first-class condition as soon as possible.—The Ed.

An oddity from Yakima, Wash.

Grimes Golden Apple

Dear Editor:

It looks to me as if one of our grand old varieties of apples is on its way out. It is the Grimes Golden, and my advice, especially to younger men who may be contemplating the planting of an orchard, is that they should not neglect to plant a sufficient number of quantity of this great old variety.

Just a few years ago the Bureau of Economics at Washington, D. C., published a bulletin on the food values, discovered by that agency, of different varieties of apples. Maybe not very many people know that it takes one and one-half Red Delicious apples to equal the Grimes Golden in food calories. Not only was this discovered, but it also was shown that this variety carries more good points than any other variety of apple grown; such as its use for canning, apple pie, eating-out-of-hand, and for apple butter.

I live in a State that demands red apples only, but just the same there are thousands of bushels of this old variety sold here every year if the trade can get them. And my idea is that the man who plants his share of this variety will not have to look for customers. They will be looking for him.

Nebr. City, Neb. B. M. Bell

We certainly can say that you are a mighty fine press agent for the Grimes Golden apple, Mr. Bell, and we'll bet many of our readers agree with you.

However, we should like to point out that one reason it is grown less than formerly is because of its color and another is because of its tendency to go out with collar rot or with peony blight before it reaches 20 years of age. Double working it on a hardier stock helps to relieve this. It is a fine apple.—Editor.

A Queer Apple

Gentlemen:

I thought you might be interested in this apple picture.

Yakima, Wash. H. C. Karr

Thanks for the picture, Mr. Karr. We are reproducing it below on this page. This condition in a fruit is not uncommon. It is a case of cohesion of separate parts. The tissue of the aborted apple was not separated from that of the large one when they were laid down in the bud.—Editor.

Bulletin 403

Dear Sirs:

An issue of *American Fruit Grower*, December, 1941, had an article submitted by J. K. Shaw of Massachusetts State College. He wrote about methods of identification of nursery stock, other than by their fruits. The article was entirely too brief, seemed to offer wonderful possibilities but then ceased, and it was not continued.

I since have discovered that Dr. Shaw already had issued a pamphlet, concerning the same topic, wherein he writes of it in greater detail. Have you that

(Continued on page 28)

CALENDAR OF COMING MEETINGS and EXHIBITS

Dec. 4-6—Fortieth annual meeting of Washington State Horticultural Association, Yakima.—John C. Snyder, Sec'y, Pullman.

Dec. 5-6—Oklahoma Pecan Growers' annual convention and show in the Civic Auditorium, Ardmore.

Dec. 5-7—Michigan State Horticultural Society annual meeting at the Civic Auditorium, Grand Rapids. Michigan Apple Show and commercial exhibits will be held in connection with this meeting.—H. D. Hootman, Sec'y, East Lansing.

Dec. 5-7—Annual meeting of New Jersey State Horticultural Society at the Claridge Hotel, Atlantic City.—Arthur J. Farley, Sec'y, New Brunswick.

Dec. 5-7—American Pomological Society in joint session with the Virginia State Horticultural Society at Roanoke, Virginia. Headquarters at Hotel Roanoke. —H. L. Lantz, Sec'y, Ames, Iowa.

Dec. 7—Arkansas State Horticultural Society winter meeting at Springdale. —Thomas Rothrock, Sec'y, Springdale.

Dec. 8-9—Annual meeting of Oregon State Horticultural Society at Hood River.—O. T. McWhorter, Sec'y, Corvallis.

Dec. 11-13—Illinois State Horticultural Society annual meeting at Urbana Lincoln Hotel, Urbana.—C. C. Mast, Sec'y, Quincy.

Dec. 12-13—Connecticut Pomological Society annual meeting at Hotel Bond, Hartford.—H. C. C. Miles, Sec'y, Milford.

Dec. 13-15—Annual meeting of the Indiana Horticultural Society at the Severin Hotel, Indianapolis.—K. I. Fawcett, Sec'y, Lafayette.

Dec. 14-15—Peninsula Horticultural Society annual meeting at Dover, Delaware.—T. F. Manns, Sec'y, Newark, Del.

Dec. 21—Annual meeting of the Indiana Berry Growers' Association at Spring Mill State Park, Mitchell.

Jan. 3-4—Maryland State Horticultural Society annual meeting at Hotel Alexander, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 3-4—Fifty-first annual meeting of the Massachusetts Fruit Growers' Association, Inc., in Horticultural Hall, Worcester.—William R. Cole, Sec'y, Amherst.

Jan. 8-9—Annual meeting of the Horticultural Society of Central Illinois, Quincy. —Raymond Leeper, Ursa.

Jan. 9-11—Annual meeting of the Pennsylvania State Horticultural Association at Harrisburg.—John U. Ruef, Sec'y, State College.

Jan. 10-12—Annual meeting of the New York State Horticultural Society at Seneca Hotel, Rochester.—H. M. Putnam, Assistant Sec'y, Lyons.

Jan. 12-13—Annual convention of Utah State Horticultural Society at Hotel Utah, Salt Lake City.—A. Stark, Sec'y, Salt Lake City.

Jan. 15-16—Annual meeting of the Horticultural Society of Southern Illinois, Carbondale.—Curt E. Eckert, Belleville.

(Continued on page 28)

There are more than a half million bushels of apples in this stockpile, awaiting processing at Winchester.

WINCHESTER APPLE MARKET

By MEADOR WRIGHT

THE northern section of the Shenandoah valley, which has Winchester as a center, produced approximately seven million of Virginia's estimated 13 million bushels of commercial apples for 1944. A large portion of the four million bushels produced in the two West Virginia counties at the mouth of the Shenandoah likewise were marketed in Winchester. So were many apples grown in the upper or south section of the Shenandoah and other parts of Virginia. Many Maryland- and Pennsylvania-produced apples were also trucked into Winchester.

The total makes Winchester the largest apple market in the East, which means it is the largest apple market in the world with the possible exception of Wenatchee, Washington. There is some dispute whether the historic Virginia city handles as many or more apples than its Washington rival. Washington production is more stable. When Virginia, West Virginia, Maryland, and Pennsylvania have light years, Wenatchee is the bigger market. In years of heavy production in the East, it probably takes second place. Since 1944 is only a moderately heavy year, laurels may be in dispute. The fact remains, however, that Washington produces from twice to four times as many apples as are produced in Virginia.

The adaptability of the Shenandoah valley for apple growing is shown by the fact that, while the northern section has only a third of the commercial bearing trees of the state, it produces more than half of the apples. In a special census in 1937, the North Valley had 1,163,789 trees of bearing age and 307,111 of non-bearing age. The South Valley had 414,288 and 29,550 respectively.

The division of the Shenandoah into two sections is largely arbitrary. Climate in the two areas is identical, and the soil differs only slightly. That the North Valley has forged ahead in the apple industry is due primarily to Winchester as a market. Here are huge processing and cold storage facilities, and buyers from all over the globe have come to think of Winchester as the capital of the apple world.

To these tangible factors can be added intangible but not less important ones. Chief among these is the influence and example of Senator Harry F. Byrd. This year the Byrd orchards produced roughly 20 percent of the seven million bushels grown in the North valley region, and some of his most promising orchards are just coming into bearing age. In the years to come this percentage will no doubt increase. But Senator Byrd exerts an influence on Winchester's apple industry out of all proportion to the apples grown in his orchards. He has pioneered in growing methods and selection of varieties. It was largely through his efforts that the Winchester Cold Storage, the largest apple storage in the world, was built in 1925. Likewise, he was most instrumental in publicizing the Shenandoah Apple Blossom Festival which has brought an incalculable amount of advertising to Winchester and to the industry. Even more, he gave the section an example of courage in planting orchards at a time when many growers had become pessimistic about the future of the industry.

Next in importance in Winchester's development is 73-year-old Frank Armstrong, President of the huge National Fruits Products Company. A resident of Banco, Virginia, Mr. Armstrong now leaves most of the management duties to his son, Frank Armstrong, Jr., who has the title of executive Vice-President. But it was the elder Armstrong who created the business in the individualistic tradi-

tion of American industry. He organized the company in 1913 as the successor to Board, Armstrong and Co., a small vinegar concern with a plant in Alexandria, Virginia. This was moved to Winchester in 1915 and since then the growth of the two have followed the same upward curve.

It would take pages to tell even a partial story of the growth, scope and size of National Fruit Products. In addition to the Winchester plant—the largest apple processing plant in the world—there are plants located in Strasburg and Waynesboro, Virginia, Martinsburg, West Virginia, and Chambersburg and Peach Glen, Pennsylvania. Although the Armstrong family still holds a controlling interest in the company, there are some 400 stockholders, among them the inevitable Harry Byrd.

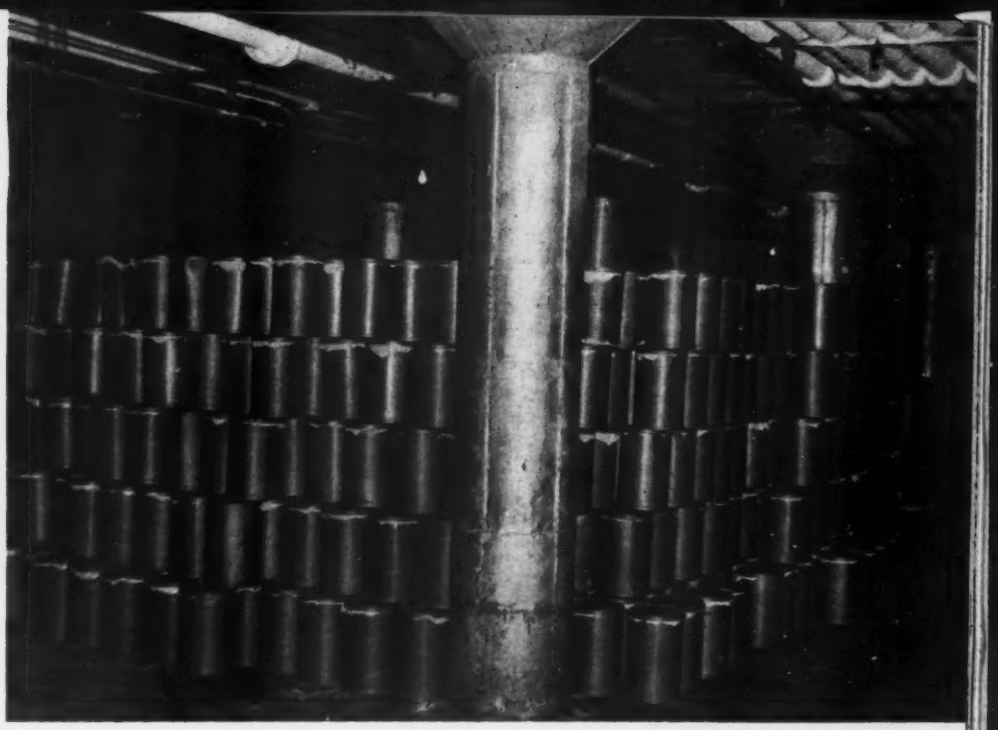
Since apple production in Virginia was abnormally low last year, figures for 1942 are taken to show the size of National Product's operations. That year three million bushels of apples were bought by the Winchester plant. These were processed into finished products for which sales totaled 7,000,000 dollars. At the peak of the season over 1500 men and women were employed.

Operations this year will approach those of two years ago. Approximately the same volume of apples will be processed for gross sales and may exceed those of 1942, although National Products, like most other concerns, is handicapped by labor shortage. The stockpile of unused apples had already passed 500,000 bushels by November 1 and was expected then to go much higher before plant consumption would catch up with the long line of trucks, loaded with apples.

National Products produces canned apples, sauce, jelly, butter, juice, vinegar, dried and frozen fruits for its main output. In addition, there are such special products as apple concentrates, sugar and various blends of juices. Much attention is given to experimental work, although this is little publicized. They have been experimenting for years, and they are busy perfecting even more advanced methods.

The exact production figures for various commodities likewise are not made public although it is generally known that National Products canned approximately 1,200,000 cases of Virginia's total pack of 1,624,000 for 1942. That year Virginia also produced 2,500,000 cases of apple sauce, butter and concentrates. Some 40 percent of the 14 million bushels produced were processed.

Apples after being peeled, cored and pared, largely by machinery, are canned by the steam vacuum process. First the apples go into a tank where the air is removed and steam is introduced. This steam goes immediately into every part of the vacuumized pieces of apple, thus pasteurizing them with the minimum amount of heat. Vitamins and natural flavors are thus preserved.



These five-gallon containers of frozen peaches in the Zeropack plant are kept exactly at zero.

Next in size to National Fruit Products is the Shenandoah Valley Apple Cider and Vinegar Company. Originally specializing largely in cider and vinegar, it now turns out products similar in scope to its larger rival. In 1942 it produced 240,000 cases of solid pack, 54,000 cases of sauce, 25,000 cases of apple butter and a million and a half gallons of vinegar. The company has some 300 employees at peak season and gets many of its apples from distant points in the Valley. J. Fred Thwaite of Winchester heads the concern. For canning apples and making sauce similar machinery to that used by National Products is employed.

Two other concerns known throughout the United States by the trademarked names of their products have plants in Winchester. They are the H. J. Heinz and Zeropack companies. Both are large in the aggregate yet buy a relatively small portion of Winchester's apple crop. Zero-

(Continued on page 18)

Individual lockers in the Robinson Cold Storage have 9 cubic feet, and rent for $1.25 a month.

This strong cane and foliage growth are the result of correct pruning, soil care and pest control.

THE ART and SCIENCE of GROWING GRAPES

By JONAS HOWARD

GRAPES constitute one of the oldest and most important fruit crops under cultivation. Their ease of planting and care, together with their annual yield of abundant delicious fruits make them excellent for homeyard as well as commercial plantings. However, a working knowledge of varieties, culture, pruning, and control of disease and insect pests will help to insure success with these prolific fruits.

Success in grape growing depends to a large extent upon the variety selected. Of prime importance is the selection of that variety which will do best under a given set of climatic and soil conditions. Publications of the United States Department of Agriculture discuss in great detail the relationship of varieties to climate and environment. Here we can only give the very general picture of varieties.

Mature berries—which show shriveling due to berry worm injury late in the season.

The United States may be divided roughly into three grape growing regions. In the South Atlantic and Gulf states, the *Muscadine grape* (Vitis rotundifolia), a native species, is grown to a large extent. California and a few other of the Southwestern states are the scenes of the culture of the Old World or *European grape* (Vitis vinifera). The native *American bunch grape* (Vitis labrusca) is grown throughout the states east of the Rocky Mountains and in the Pacific Northwest.

Concord, an old standby, is still one of the best native varieties because it can be grown upon a wide variety of soil and climatic conditions. It is highly prized for juice and makes an excellent table grape. The berries are blue to blue-black in color, firm, of good size, and ripen evenly. This variety will often succeed where others will not.

Catawba, a red grape, excellent for juice, does best when planted in favored places, as in the Great Lakes region. It requires a little more care than Concord in order to be a highly productive vine. The fruit of the *Delaware,* another red variety, although small is of very high quality. It usually thrives a little better than does Catawba. *Niagara,* the leading white variety, produces a large bunch, is very productive but is somewhat less hardy than Concord.

Varieties of a more recent origin that possess good vine and fruit characteristics are *Fredonia* (blue-black), *Sheridan* (blue-black), *Portland* (white), and *Golden Muscat* (yellow hybrid). Fredonia may be tried in place of Concord, the variety it is at present replacing in commercial plantings. Because Sheridan requires a longer growing season than Concord, it may replace this variety only where the season is ten days or more longer. The Portland is a high-quality white grape that is very productive and ripens about 3 weeks earlier than Niagara. Golden Muscat is a hybrid, resulting from a cross between the American and European grape. It possesses many characteristics of the European type. It seems to lack a high degree of hardiness and should be planted in the more favored areas of the Eastern states.

Of the countless varieties of European grapes, only a few can be briefly described in this discussion. *Thompson Seedless* (Sultanina) is now the most popular and abundantly produced European variety. It is characterized by the large bunch of medium sized, greenish white to light golden, seedless berries. It is the seedless California grape so common on the market. It is excellent for table use and is the leading raisin grape. It does best in the hot desert regions of California and southern Arizona and New Mexico.

The bunches of the *Flame Tokay* variety are large and compact with large to very large berries of a brilliant red color. This is the leading red variety and is used almost entirely as a table grape. Another standard variety is the *Malaga.* Its clusters are very large and the berries are large, uniform, and whitish green to whitish yellow in color. The *Red Malaga* is similar to the Malaga except it has a pink to reddish purple skin somewhat like the Flame Tokay. It requires hotter regions than the Tokay and ripens earlier.

Varieties of the Old World grape have been grown East of the Rocky Mountains but with little success. When grafted upon rootstocks of the American species they can be grown with a little more success. However, it is difficult to obtain varieties graft-

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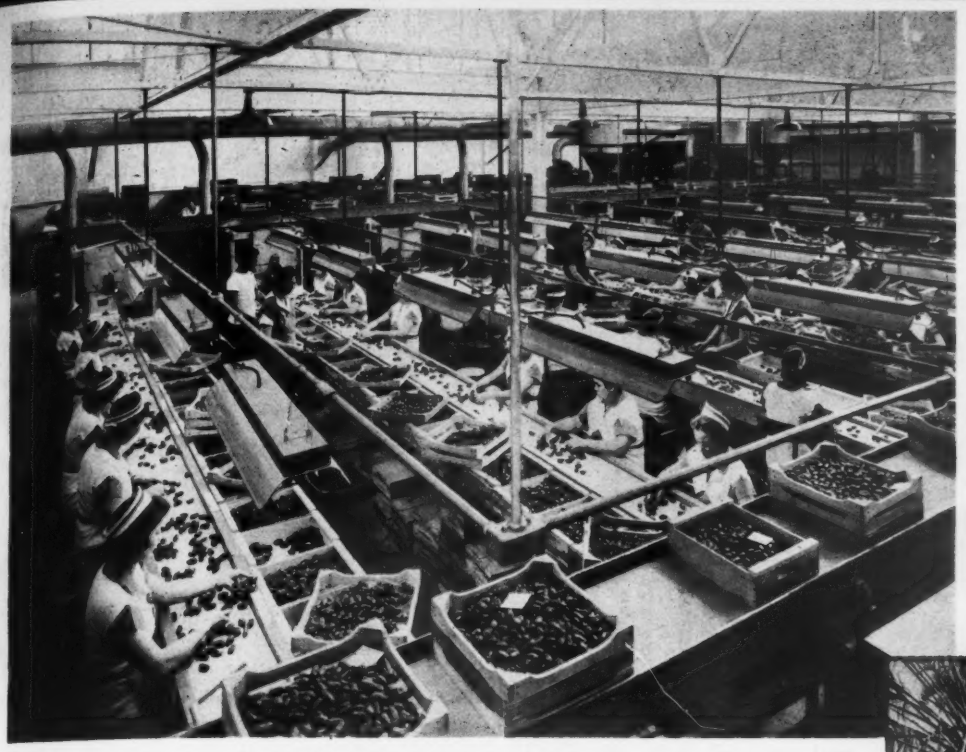

The interior of this large modern date packing house shows the grading of fruit.

Harvest scene in a Deglet Noor date garden in Coachella Valley, California: The palms are about 25 years old.

DATES
IN THE UNITED STATES

By ROY W. NIXON

U. S. Department of Agriculture

THE events of the last three years have served to call attention to the fact that dates are grown in the United States. Importations from the Old World, which have averaged around 50 million pounds annually for the past two decades, were shut off by the War in 1942. Our own domestic industry, although still relatively small and unable to supply present demands for fruit, has grown from a production of only one million pounds in 1926 to 16 million pounds in 1943. And the last figure does not include 5 million pounds of cull dates, mostly dropped and unpollinated fruit which would not have been harvested under pre-war conditions but which was utilized this season for the production of alcohol.

The center of commercial date culture in the United States is Coachella Valley, California, in the Colorado Desert, 140 miles southeast of Los Angeles. In this small locality is 80 percent of the approximately 3,800 acres of dates in the United States, of which 3,300 are in California and an estimated 500 in Arizona.

Coachella Valley got off to an early start under a combination of favorable conditions. Early in the present century a few pioneer settlers in this area became intrigued with the possibility of growing dates. They had watched the experimental plantings of date varieties imported from the Old World by the U. S. Department of Agriculture beginning as early as 1890 and planted first in Salt River Valley, Arizona, and later in Coachella Valley, California. As a result, large-scale commercial importations of date offshoots from Algeria and Iraq were made by these prospective growers during the years 1911 to '15, and again from Egypt in 1920 and '22.

For a number of years interest in the possibilities of date culture continued at a high level. The first offshoots propagated from the original importations sold for high prices, those of the Deglet Noor variety averaging $20 apiece and some of the rare varieties as much as $100 apiece. Fruit sold at novelty prices of $1 to $2 a pound. The depression brought an end to this period and there followed a decade of hard times for the date growers. Most of them had to borrow money to carry on and only the best gardens under the best management paid their way.

One reason for difficulties during the depression period was the lack of an adequate marketing organization. During the early promotional days, marketing was no problem, but with increased tonnage came chaotic marketing conditions. There was one cooperative packing house and it handled less than half of the fruit —not enough to control the marketing program. The result was a buyers' market with the bulk of the fruit going to various jobbers in Southern California. This situation led in 1937 to the organization of an overall marketing agency which has since controlled about 75 percent of the crop. From this point on, economic conditions began to improve. As production increases national markets are being developed and American grown dates are now find-

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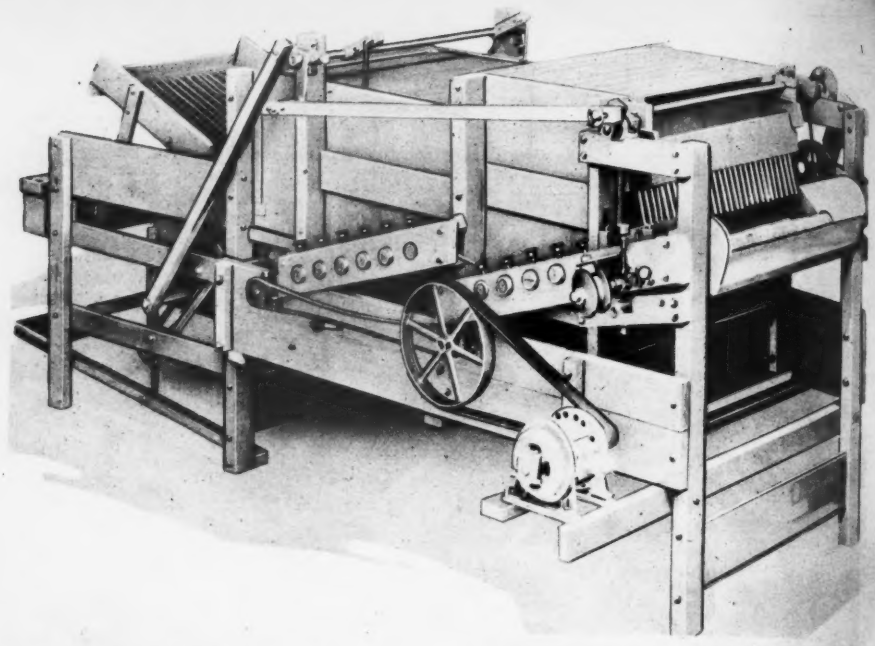
The COST of APPLE WASHING

By C. L. BURKHOLDER

Indiana Experiment Station



The under-brush flood apple washer scrubs as well as floods the fruit with cleaning solution.

THE necessity of using washing machinery in the apple packing shed is something that most growers prefer to avoid. On the other hand, non-washing spray programs may be more expensive than the actual cost of removing excessive spray residue from the fruit. This is particularly true, if the residue load is held down by a reduction in the number of spray applications, and heavy losses from codling moth also enter into the cost picture. Regardless of the spray program being followed, a study of the actual cost of washing, over a ten-year period, should be of interest to every commercial apple grower.

The under-brush flood type washer used on the Purdue Farm at Bedford was purchased in 1934. It has a capacity of approximately 50 bushels per hour. A counter was installed on the feed end and a record of all fruit put through the machine was recorded during 10 consecutive seasons. The power consumption was measured on a separate meter and charged at 3c per KWH. The original cost of the washer was $700.00 and a yearly depreciation charge of $135.00 per year was used as one of the operating expenses. The yearly cost of repairs, replacements and labor in making repairs was subtracted from the depreciation figure each season so that it required 10 years to depreciate the complete value of the washer. In 1937 and again in 1942 the cost of repairs and replacements was greater than $135.00 and the excess was added to the book value of the washer.

A yearly interest charge of $21.00, cost of hydrochloric acid and daily labor in caring for the machine, made up the other yearly items of expense.

During the ten-year period, a total of 98,387 bushels of fruit went through the washer at a total cost of $2,049.75. This would result in an average cost of 2.1c per bushel. The greater the number of bushels washed, in any particular year, the lower the cost. This range was from 1.2c to 6.5c per bushel. A straight average of the ten yearly costs shows 2.8c per bushel.

This particular washer required a complete overhaul at the end of the 4th and 8th seasons, but at the completion of the 10th year of service, it seems still to be in condition for one or two more seasons of operation without extensive repairs and replacements. This fact was not taken into consideration in making up the ten-year washing cost figures.

There are also other advantages which help to offset the cost of an apple washer which at least deserve mentioning. The sale value of drop fruit is definitely increased by washing. Hobert Hall, who operated this particular washer during the entire ten-year period, recently said, "The cost of this washer has been more than paid for by the increased sale value of our drop fruit alone."

Still another valuable harvest consideration is the fact that fruit can be picked while wet. A good many large packers, such as R. A. Buyce at Bangor, Michigan, set up their packing equipment so that the fruit can be either brushed or washed depending on whether it comes in dry or wet. Any orchard manager who has experienced a severe harvest windstorm or gone through a rainy picking season can vouch for the "lift" he had from his apple washer.

The cost of apple washing, as indicated by these figures, seems lower than would be normally expected. One explanation is the two complete overhaul jobs in 1937 and 1942. Without this attention, the washer would have been obsolete at the end of just the 4th season of operation instead of lasting for 10 years and still being in condition to take care of the washing requirements of the 1944 crop.

Acknowledgment is gratefully given to Prof. T. E. Heinton of the Purdue Agricultural Engineering Department for his assistance in installing and furnishing special electrical equipment for this test.

Although spray residue such as this may result in a very high percentage of clean fruit, it must be removed before the fruit is salable.

FRUIT THE PERFECT GIFT

ATTRACTIVE fruit containers are playing a more important part each year in stimulating sales of fruit —not only during the holiday season, but all year round. For Thanksgiving, Easter, Mother's Day, Father's Day, for an anniversary token, for remembering the shut-in, as a party prize or for a table decoration, the attractive fruit package is a gift of freshness, beauty and delightful appeal.

During the Christmas season, enterprising growers have developed an extensive mail-order trade based on the sale of high-quality, well-packed fruit. The public is becoming more aware of fruit as a gracious gift, individually packaged and sent as a greeting to friends, relatives, customers, and business associates.

Tests have proven that by the use of attractive, well-packed consumer units, the grower can obtain a higher return per unit than by any other type of packing. Displaying fruit in attractive small packages is not just a holiday idea. One of the most effective ways of stimulating consumer sales and of establishing your brand or name with the buying public is this fairly new type of merchandising—the consumer package. The potentialities of this fairly new field of packaging are not as yet fully realized. Because of the scarcity of materials and labor during the war years, this field is now dormant, but should find a rebirth in the postwar period.

This year retailers, who assemble gift packages of fruits in containers designed and constructed for re-use, may include the ceiling price of the container in figuring the ceiling price for the gift package. Such a package might consist of fresh fruit packed in a fancy wicker basket.

Ceiling price of the durable container and contents is found by adding the ceiling price of each item or article in the package, the ceiling price of the container and the direct cost of the packaging material used, and multiplying the sum by 1.10.

Ceiling price of gift foods packaged by the retailer in a container not intended for re-use is found by adding the ceiling price of each item or article in the package, the actual cost of the container and the actual cost of the packaging materials, and multiplying the sum by 1.05. If the packer has no ceiling price for any item or article, or for the container, the direct cost must be used.

Fruit can easily be made the perfect gift, since practically all fruit lends itself to the artistry of the modern package design. The package expert not only uses materials that display his fruit well, but materials that add to the protection of the fruit —such as waxed, colored, and shredded paper, transparent materials, corrugated board, and paperboard.

With most fruits, their own attractive coloring is their greatest asset, and modern use of transparent materials display fruit's own natural beauty.

Consider your fancy fruit not only as a year-round delicious and healthful treat, but as a "prize package" to be offered as The Perfect Gift. What better way is there to say a "Merry Christmas and a Happy New Year?"

NATIONWIDE NEWS

83 Percent for U. S. Civilians

U. S. civilians have been allocated more than 103 million bushels of apples for consumption in fresh and processed form during the 12 months ending next June 30, 1945. This quantity is 83 percent of the estimated 125-million-bushel total supply, and 13 pounds per capita more than was available to civilians last year. The remaining 17 percent of the supply was allocated to U. S. military services, Territories, and allies. The only product on the absent list for civilians again this year is dried apples.

New W.F.A. Appointment

DAVID MEEKER has been named Director of the Office of Surplus Property and Reconversion, a new W.F.A. staff office. The purpose of the new office is to supervise and coordinate the functions of its various agencies in surplus property disposal reconversion and contract settlement.

Mr. Meeker has been serving as Chief of the Farm Machinery and Supplies Branch, Office of Materials and Facilities, W.F.A.

Apples to United Kingdom

FOR the first time since 1941, fresh apples from the United States will appear this winter in United Kingdom markets. Re-opening of the fresh apple export market is possible largely through the substitution of fresh fruit for a part of an allotment of dried apples which will be in short supply this season.

Citrus Salvage

BECAUSE of storm damage to the southern citrus crop, and the necessity for prompt packing of all edible oranges and grapefruit now on the ground, the War Production Board, in collaboration with the War Food Administration, has authorized temporarily the unlimited use of metal cans for the packing of grapefruit segments and juice, orange juice, and orange and grapefruit juice blend.

1944-1945 Fertilizers

THE stepping up of the Government's munitions program in recent months has affected production and the supply of nitrogen, available for use as fertilizer, according to agronomist authorities. For many months the super-phosphate industry has been getting a considerable quantity of sulphuric acid from ordnance plants, but this supply now has been greatly curtailed. The nitrogen converted until recently into nitrogen solutions for use in mixed fertilizers and into ammonium nitrate, now is being used in munitions manufacture and supplies for these materials may be less than last year. Growers are urged to order and accept their fertilizer supplies early.

Sixth War Loan

SECRETARY of Agriculture Claude R. Wickard appealed to farmers and fruit growers to support the Sixth War Loan Drive in as great a measure as possible. Now, he said, during this period when farmers and growers are earning the biggest farm income on records, they should look to the future and build up a financial reserve. "There is no better investment," he said, "than United States War Bonds."

Rural Post-War Employment

THE United States Department of Agriculture is commencing a program to assist rural communities in post-war employment problems. This Department with other federal and state agencies will render technical assistance in determining what industries should be established in a community in order to absorb prospective unemployment.

Canadian Imports

UNDER the formula agreed upon in August by the United States-Canadian Apple Committee, whereby the surplus burden would be shared alike by the two countries on a per capita basis, it appeared that 1½ million bushels of Canadian apples would be marketed in the United States, according to the National Apple Institute.

Because of the unusually large production in British Columbia, lack of storage space, insufficient labor and very limited export outlets, British Columbia apples have been pouring into the U. S. at a rapid rate. Unless some of the quota alloted to Nova Scotia is transferred to British Columbia, it is probable that B. C. by this time, has exhausted its allotment, and that imports from that source will presently cease.

New Tangerine Syrup

TANGERINE syrup, rich in sugar and vitamins, and new types of beverage bases are among new products developed in research carried on at Winter Haven, Fla., by chemists of the Florida Citrus Commission, working with investigators of the Agricultural Research Administration.

All of the new products are from cull fruit. It is expected that their commercial production, along with other citrus by-products, will provide an outlet for that part of the tangerine crop for which there is normally a poor market and will result in increased returns to growers. Heretofore the market for the low-grade fruit has been limited by difficulties in the canning of tangerine juice.

The tangerine syrup is described as light-brown in color, honey-like, high in vitamin C, and with a sweet fruity taste. It can be bottled for home use as a table syrup or put up in large containers for shipment to manufacturers of other products as a source of sugar, vitamin C, or as a substitute for glycerin. The beverage bases are also concentrates of tangerine juice.

New U.S.D.A. Circular

FREEZING injury of fruits and vegetables will be much less serious if precautions are taken against it and if proper care is given to the produce that has become frozen. Thorough studies of these problems have been made in the Agricultural Research Administration of United States Department of Agriculture. The findings have been published in a new circular.

The Circular is No. 713 and may be obtained free by addressing the Office of Information, Department of Agriculture, Washington 25, D. C.

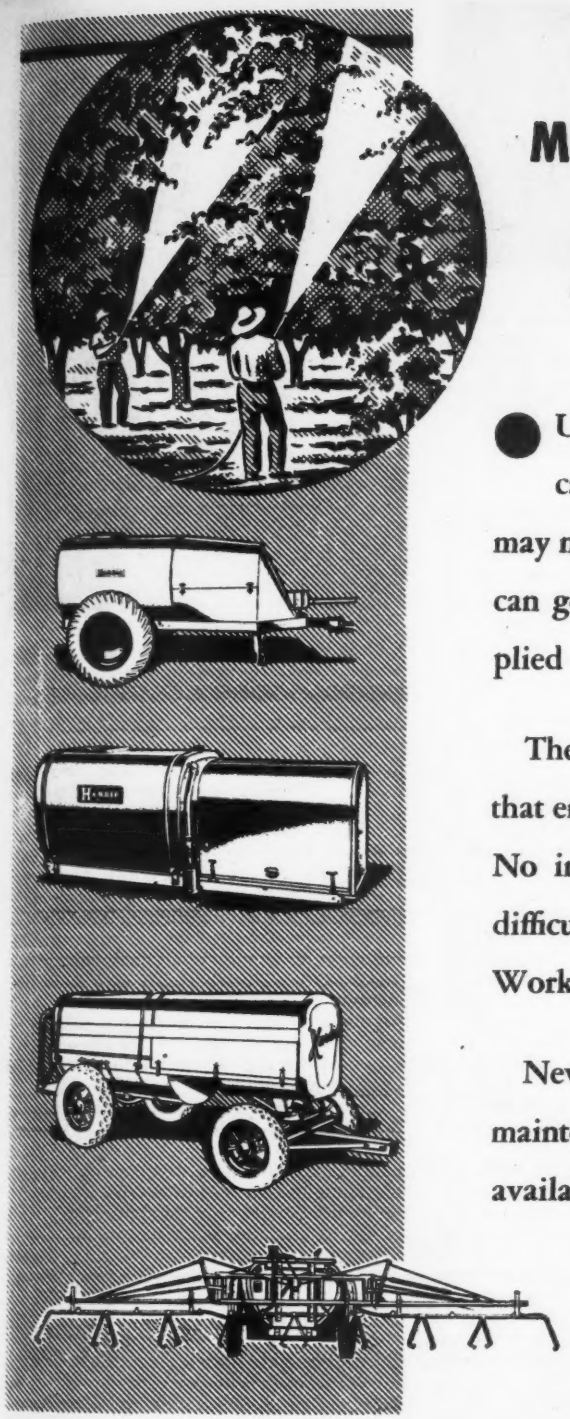
1944 Fruit Pack

THERE will be approximately 21,900,000 cases of 24 No. 2½ cans, or a total of 525,600,000 cans of fruit for civilian consumption out of the 1944 pack, according to the Office of Price Administration. This means that the rationing of canned fruits under the Processed Food Program will necessarily continue.

After World War II?

ACCORDING to the Department of Information of O.P.A., the price of oranges on Armistice Day, November, 1918, was 51.5c per dozen. By the middle of 1919 it had gone down to 51c, but by the middle of 1920 the price had soared to 71.8c per dozen, and late in 1920 it crashed to 43.7c per dozen.

To avoid such inflation as this which ended in chaotic collapse, food prices in general have been held down during World War II. In fact, food prices have been held almost stable for the past 18 months, which is a propitious sign for the future.



MORE GROWERS WILL GET *NEW HARDIES* THIS YEAR!

● Under new more liberal Federal quotas Hardie can build more sprayers this year than last. It may not mean that all growers who want new Hardies can get them, but a greater number now can be supplied than at any other time since the war started.

The Hardie you buy today still is the best sprayer that engineering and manufacturing skill can produce. No inferior materials will be used, no matter how difficult it may be to procure the highest quality. Workmanship will not be slighted.

New pumps, guns, hose, tanks—all repair and maintenance needs and labor-saving accessories are available from ample stocks without restriction.

Write for the 1945 Hardie Catalog.

THE HARDIE MFG. COMPANY

Hudson, Mich. Portland, Oregon Los Angeles, Calif.

HARDIE DEPENDABLE SPRAYERS

...THE ONLY SPRAYER THAT IS COMPLETELY LUBRICATED

STATE NEWS

INDIANA—The Indiana Horticultural Society has sponsored the "Quality Plus Apple Club" for several years. Any grower-member registers 200 trees of at least two varieties and the fruit at harvest time is graded by a Federal-State Inspector. If 90 per cent, or better, of the apples are U. S. No. 1, the grower receives a gold medal; if 80-90 per cent, he receives a silver medal. Winners this year are:

L. V. Doud & Son, Wabash; R. W. Gregory, Mooresville; Simpson Orchard Co., Vincennes; W. J. Teel, Owensville; Bristol Orchard Co., Bristol; Floyd Jacoby, Plymouth; Martin Davis, Daleville; and Roy Tuttle, Greenfield.

Fires of varying sizes have recently been reported by several Indiana fruit growers. This is a distressing and unusual occurrence in this State.

The new muskmelon, Purdue 44, was grown commercially in the Posey and Gibson melon area. Growers in general were well satisfied with the new melon and unofficial yields of 200 bushels per acre were reported by several growers.—K. I. Fawcett, *Sec'y, Lafayette.*

TENNESSEE—In 1914, after 10 years' association with Tennessee fruit growers, Treasurer Professor G. M. Bentley became Secretary of the State Horticultural Society. He has held that position continuously since then, and he still is "going strong" as he makes plans for the Society's 39th convention in Nashville, January 25-26. Officially, he heads the Department of Entomology at the University, and he is State Entomologist and Plant Pathologist of the Department of Agriculture, directing nursery and plant certification work in the State.

Prof. Bentley majored in "bugs" at Cornell University, but horticulture was his second choice, and fruit growing is still a favorite subject. Although he has no orchard, he planted fruit trees about his garden and home. He is proud of the fact that he has sold $30's worth of surplus apples from his two young Transparent trees this year. He knows the need for good spraying and, as his trees are too large for hand outfits, he has them sprayed by a local custom sprayer.

Aside from his double schedule of official duties, and his work for the Horticultural Society, Prof. Bentley serves as Secretary of the State Nurserymen's Association. He also takes a part in church, civic, and fraternal organizations.—A. N. Pratt, *State Horticulturist, Nashville.*

Prof. G. M. Bentley has been Sec'y since 1914.

ILLINOIS—Weather this year during apple harvest was about the best ever experienced in Illinois. There were five solid weeks without rain. Quality of the apple crop in general was rather disappointing, there being lots of wormy apples and undersized apples. However, most growers sold nearly all their crops at satisfactory prices as they packed them.—C. C. Mast, *Sec'y, Quincy.*

KENTUCKY—Labor shortage has greatly reduced commercial acreage of strawberries in the Paducah area of southwestern Kentucky where, under normal conditions, some 700 to 1200 carloads of strawberries were produced annually for commercial shipments. Practically all of these berries are marketed through the McCracken County Cooperative Association. This organization consists of some 3,000 growers who normally produce an average of 2 acres per farm.

The Agricultural Extension Service is cooperating closely with the Association in an effort to restore strawberry acreage as a part of a post-war planning program. Our experimental acreage consists of about 75 per cent Blakemore variety and 25 per cent Aroma. Experimental and demonstration tests have shown that strawberry yields in this region can be increased greatly by using an abundance of superphosphate during the first growing season, and by using an additional 600 to 800 pounds per acre of superphosphate, applied on top of the mulch, during January or February. This treatment increases the size of the berries and goes a long way toward reducing cat-face and dwarf berries.—W. W. Magill, *Sec'y-Treas., Lexington.*

MINNESOTA—John L. Westrum was re-elected President of the Excelsior Fruit Growers Association at the annual meeting held on November 4. Other officers re-elected were: LeRoy Smith, Secretary; and I. O. Kragness, Treasurer. Robert B. Faxon and Frank S. Workman were elected directors for 3-year terms. This association claims to be the first cooperative berry marketing association to be organized in the United States. The 1944 berry crop was one of the smallest in volume produced and distributed by the Association, although gross receipts were approximately 20 per cent higher than in 1943. The possibilities of installing freezing equipment for packing berries were discussed at the annual meeting.

Mr. Westrum represents Minnesota berry growers on the National Fresh Berry Industry Advisory Committee, having been re-appointed on this committee for 1945 by the War Food Administration.

Prof. W. H. Alderman, left, and Fred W. Braden, right, examine penetrometer chart. This device records soil conditions in connection with commercial raspberry production.

Above Professor W. H. Alderman, Chief of the Division of Horticulture, University Farm, St. Paul, and Fred W. Braden, field man in raspberry production investigations which have just been completed in the Duluth region, examine a penetrometer chart. This machine automatically records the resistance of the soil to penetration in pounds per square inch, thus making it possible to determine quickly whether the physical condition of the soil is suitable for commercial raspberry production.

Prof. Alderman recently was awarded the Stevenson Memorial Medal, a cherished Horticultural honor in Canada. He is so honored for the distinctive contributions he has made in fruit breeding with direct benefit to the northern great plains region. He is the second horticulturist in the United States to receive this award.—J. D. Winter, *Sec'y, Minn. Fruit Growers Assn., Mound.*

UTAH—President A. Howell and the Board of Directors of the Utah State Horticultural Society have set Jan. 12-13 as dates for the annual convention, to be held at the Hotel Utah, Salt Lake City. County horticultural groups will hold their meetings in early January, preceding the State convention. Production, marketing problems, fertilization, and pest control will be major topics of discussion and, since bee losses have been quite heavy during the past few years, pollination and bees will receive considerable attention. The regulation and disease control of nursery stock and other legislative matters will be presented to the growers.—A. Stark, *Sec'y, Salt Lake City.*

WASHINGTON—During this State's Annual Horticultural Meeting, Jan. 4-6, the soft fruit growers, the apple and pear growers together, probably will meet as two separate bodies on at least one day of the meeting. This will permit them to discuss their problems more fully than if the soft fruit growers meet with the apple and pear growers.—John C. Snyder, *Sec'y-Treas., Pullman.*

(Continued on page 20)

Big *New* Developments in ORCHARD SPRAYERS!

NEW DESIGNS
NEW TYPES
MORE SPEED
GREATER COVERAGE
LESS MANPOWER
EXCLUSIVE FEATURES
IMPROVED PUMPS
HIGH PRESSURES
INCREASED CAPACITIES

TAKE OFF YOUR HAT TO
MYERS
POWER and HAND SPRAYERS

New designs, big improvements, new methods of application are in store for buyers of Myers Power Sprayers. New models providing major advantages through exclusive Myers features are now being field-tested in many fruit-growing sections. Ask your Myers dealer about the stepped-up speed and coverage and saving in manpower that will be offered by Myers. Also talk with him about your present sprayer needs and the many advancements included in the complete Myers line of orchard and row crop sprayers now available.

THE F. E. MYERS & BRO. CO.

Dept. A-91 Ashland, Ohio

Army trucks such as these helped to handle this year's crop.

SURPLUS PROPERTY

THE Office of Surplus Property, Procurement Division of the Treasury, has in its inventories a tremendous variety of property or merchandise. It may be property bought for World War I or World War II, in new or used condition. It may be located in one or more of approximately four thousand locations in the United States. All of this property has to be inspected, appraised and priced before it is made available to the public. The eight major merchandise divisions of surplus property include: Furniture, Machinery, General Products, Automotive, Hardware, Textiles and Wearing Apparel, Medical and Surgical, Paper and Office Supplies.

The Automotive Division recently announced the sale of approximately 2000 Standard Scout Cars. A spokesman for the Army stated that these were declared surplus as they were no longer needed for training purposes in the various camps throughout the United States, and that the cars had seen considerable service and were not deemed to be up to proper combat standards. Therefore, they are not being shipped overseas.

To make these vehicles suitable for civilian use, military tires and batteries were replaced with those of a civilian type, and all radio and combat equipment was removed. These cars are of the heavy armored type and are currently being offered to law enforcement agencies, banks, haulers of valuables, and others who normally use armored equipment. All cars are used and will be sold as is, either by negotiated sales or informal bids.

Persons interested in buying surplus materials should watch their local or state newspapers for announcements of sales within their districts. In Region IV, there was recently an announcement of Army Trucks for sale in Salem, Ohio. These trucks, it was announced, are equipped with front and rear wheel drive, snow and mud grip tires, and are half ton, ton, and ton and a half trucks. The announcement read, "These trucks are especially suited for farm and heavy work because of their structure and perfect condition."

In the Surplus War Property Bill, passed just before Congress recessed, rules were set up directing that farm land be handled through the Department of Agriculture. Former owners will have the first chance at buying back the land in the same size acreage as it was bought from them. If the original owner fails to buy the land within ninety days, former tenants and then veterans will be given the next opportunity to buy. The sale price of farm real estate is limited to that paid by the Government, plus any improvements or less any damage, or the current market price, whichever is lower.

W. L. Clayton, Surplus War Property Administrator has announced that he authorized the salvaging and scrapping of certain classes of surplus Army and Navy combat aircraft and equipment that have no commercial market and are seriously interfering with military operations.

Before planes are declared surplus, the Munitions Assignment Board, an agency of the Combined Chiefs of Staff, determines that they have no further military value to our own military air services, or to the air forces of friendly foreign nations. No combat planes are salvaged or scrapped after they are declared surplus if they are considered economically adaptable to commercial purposes.

Additional information on war surplus property may be obtained from any one of the eleven Regional Offices of the Treasury, which are located in the following cities: New York, New York; Boston, Massachusetts; Cincinnati, Ohio; Chicago, Illinois; Kansas City, Missouri; Fort Worth, Texas; Atlanta, Georgia; San Francisco, California; Denver, Colorado; Seattle, Washington; Washington, D. C. For full address refer to the war surplus map in the October issue of *American Fruit Grower*.

INCOME TAX

THERE have been changes in the income tax law which will affect fruit growers this year. A farmer is, for income tax purposes, an individual, who receives at least two-thirds of his gross income from farming operations. He must file his declaration, or tax return, and pay his 1944 tax by January 15, 1945, unless he has filed an estimated return and paid his estimated tax in quarterly installments, as other tax payers are required to do.

Personal exemption for husband and wife this year is $1,000 on a joint return, plus $500 for each dependent. A tax payer is allowed an exemption of $500 for each dependent. A person is a dependent now, who is of certain specified close relationship, and who receives more than half his support from the taxpayer. Dependency exemption cannot be claimed by any person having a gross income of $500 or more. Such person must file his own return. Where the return is a joint return, by husband and wife, the normal tax exemption is limited to $1,000, unless the adjusted gross income of either husband or wife is less than $500. In such case, the exemption is $500, plus the adjusted gross income of the one with the smaller income.

The earnings of minors are no longer to be included in the return of the parents.

If the minor's income is more than $500, he is required to file his own return, and he cannot be claimed as a dependent.

An individual whose adjusted gross income is less than $5,000 may file on simplified tax form Supplement T, where the tax is figured out in a table on the tax return form furnished by the government. Where it exceeds $5,000, he must make a complete return, showing the details of his income and expense. He cannot use the optional short form, but he can take the standard deduction of 10% up to $5,000, in lieu of personal deductions, such as charitable contributions, interest on personal debts, and taxes on personal property.

Property acquired, and held by a farmer, and used by him in his trade or business for more than six months, such as tractors, spray machines, graders, dairy, breeding, and other work stock, is, under Sec. 117 J of the Act, considered capital assets in determining gain. If there is a loss, then it is considered an ordinary loss.

(Continued on page 28)

KILLS APHIS EGGS, SAVES ON NICOTINE SPRAYS

The use of S-W Dinitrol is important in your spray program because it kills the eggs of Rosy Aphis and Green Apple Aphis in the dormant period. Thus it is cheaper to use Dinitrol against aphis than to spray during the growing season with Nicotine Sulfate. S-W Dinitrol is a dry powder containing dinitro-ortho-cresol and is recommended for use with all properly made oil emulsions. The use of Dinitrol is especially important under present conditions because there is a world-wide shortage of tobacco used in the manufacture of nicotine sulfate. Conserves nicotine which is vitally needed by the country for another purpose.

Recommendations for S-W Arsenate of Lead and Spralastic apply East of the Rockies only.

Write for Further Information.

Memo!

ORDER THIS WINNING COMBINATION

S-W ARSENATE OF LEAD

The proven S-W Arsenate of Lead is 98% pure Arsenate of Lead, which is 2% higher in content than many other Arsenates of Lead. S-W Arsenate of Lead does not contain a flocculator or suspender because the addition of these would reduce efficiency by reducing the deposit on sprayed fruit. The heaviest deposit is produced by Sherwin-Williams Arsenate of Lead.

S-W SPRALASTIC

The use of S-W Spralastic will make the Arsenate of Lead you are using much more effective in the control of codling moth, because it actually deposits three or four times more Arsenate of Lead on the fruit by increasing the adhesive and spreading properties of the Arsenate of Lead particles and eliminating wasteful run-off.

SHERWIN-WILLIAMS SPRAY MATERIALS

INSECTICIDE DIVISION

101 Prospect Ave., N. W. • • Cleveland, Ohio

WINCHESTER APPLE MARKET

(Continued from page 7)

pack established its Winchester plant in 1932 and has pioneered in methods of freezing fruits. It buys apples, peaches and small fruits within a radius of 100 miles of Winchester. These are put up uniformly in five gallon containers. Size of operations is indicated by the fact that 96,000 cubic feet of freezing space are maintained in the Winchester plant. A fifth concern which started operations on September 19 of this year is Ridgewood Fruit Industries, Inc. Equipped to make 2,000 barrels of apple concentrate a year by the vacuum evaporation method, it employs 30 persons and is headed by Dr. Houston St. Clair of Tazwell, Virginia. Designed to make "Apple Honey," the company will switch to this product when the current ban on its manufacture is lifted.

This brief outline of Winchester's fruit processing plants tells but a part of the story of the apple. Some 60 percent of Shenandoah apples are packed for shipment. To handle this, the best quality apples of the crop, the town has splendid cold storage facilities. Largest is the Winchester Cold Storage Company, built in 1925. It cost approximately a million dollars and, despite depreciation, is valued higher than that today. It has no business except to rent storage space to growers. Price is 20 cents a bushel to April 1. It has space for 1,400,000 bushels of apples, most of which come from within a radius of 50 miles.

Second cold storage in size is the C. L. Robinson Ice and Cold Storage Company which has space for approximately 400,000 bushels of apples. The Robinson company lately has begun renting out lockers to individuals. Lockers with nine cubic feet of space rent for $1.25 a month. The third public storage plant is the Virginia Cold Storage which has space for 300,000 bushels. In addition, individual growers have their own storage plants, the largest of which is the Byrd plant at nearby Berryville which has space for 100,000 bushels of apples.

It is the Shenandoah apple, however, that makes the above processing and storage plants possible and not the other way around. Why is apple growing concentrated so largely in the upper section of the Shenandoah valley? To get an answer to this question we went to see Walter Bond, recently retired President of the Virginia Horticultural Society and reputedly the greatest living authority on Shenandoah apple growing. Mr. Bond started his career as a civil engineer for the Baltimore and Ohio Railroad. During the First World War he was drafted, and, as was the custom at that time, he was sent to help harvest the apple crop. When the armistice came he was busily picking apples near Winchester and was so interested in growing apples that he never went back to his old job. It provided the background for one innovation, however. He was the first person to lay out apple orchards with a surveyor's transit. Not only was this method much quicker than the usual crude measuring system but it resulted in trees being set absolutely in line. Visitors today admire the symmetry of Senator Byrd's huge Berryville orchard, but few know that almost all of it was laid out by the former railroad engineer.

Lester D. Arnold, Sales Manager for the Byrd Orchards, is a leading figure in the industry.

According to Mr. Bond, there are two special types of soil most suitable for growing apples. These are the Funkstown silt loam and the Hagerstown clay loam. Geologists have traced these soils as far south as North Carolina and north to New England. These must be on land well drained to get the best results. This combination is found best on what is known as Apple Pie Ridge, an area on the extreme western edge of the valley, and extending north and south for a distance of over 100 miles. Much of the valley proper, says Mr. Bond, is too low and damp for apple trees to develop the magnificent root system that makes them thrive so well on the ridges. Even though the ridges appear to be dryer in summer, it is Mr. Bond's contention that trees here suffer less from drouth than in the valley proper. Taking both soils and drainage into account, Mr. Bond estimates that approximately a fifth of the North Valley area best suited for apples is now planted to orchards. This fifth produced nearly seven million bushels this year. He thinks if all of it were planted, this one section of Virginia would produce more apples than the state of Washington.

A most controversal question in the Shenandoah valley is: whether to irrigate or not to irrigate. Senator Byrd thinks irrigation in the discernible future will not be practical. Fruits he says were meant to fight for their existence. If irrigation were employed, he thinks Shenandoah apples would lose some of the rare flavor that natural growth gives them. Any system would be extremely costly and would be of major use only one year out of three. Washington apples owe their quality he thinks to the continual sunshine of the dry areas in which

(Continued on page 29)

This is the largest cold storage in the world and holds 1,400,000 bushels of apples.

FORD HAS BUILT MORE THAN 30,000,000 CARS AND TRUCKS

Ford

GROWING GRAPES

(Continued from page 8)

ed in this manner that will do well under Eastern conditions. The varieties that give most promise are *Bakator, Golden Chasselas* and *Chasselas Rose.*

The wild grapes of the Southeastern coastal plain area of the United States are the *Muscadine grapes.* From these wild grapes, through breeding and selection, have come the varieties now adapted to the home needs of the Southeast. The *Scuppernong* is one of the oldest native grape varieties now under cultivation. The cluster is small, generally from 2 to 6 berries which average three-fourths of an inch in diameter. When fully ripe they vary in color from a pearly green to reddish brown. It is an excellent variety for home use in this section of the country.

The *Mish* variety is very productive and similar to the Scuppernong. It ripens uniformly, but later, and the skin may crack in wet weather. Other Muscadine varieties that may be grown in the Southeast are *James, Flowers* and *Thomas.* James is a good all purpose variety; Flowers is a good culinary variety, making excellent spiced grapes, conserves and ketchup. Thomas is the best standard variety for unfermented juice and preserve making.

Planting

One-year plants with a well developed root system have proven the best for planting, regardless of type or variety. The plants can best be purchased from nearby nurserymen. Upon arrival the stock should be planted immediately, or heeled-in until time to plant. The main point is to keep the roots moist, but not wet.

Early spring is usually the best time of year to plant all types of grape vines. In Arkansas and states towards the southern limit of grape growing, fall planting may be more satisfactory.

The planting distance will depend largely upon the system of training of the vine. For European varieties as Thompson Seedless, each vine should have from 80 to 100 square feet. The vase formed vines may be set 9 by 9 feet or 10 by 10 feet. The trellised vines, especially the table and raisin varieties, may be planted 8 by 12 feet; 12 feet between the plants in the row and 8 feet between the rows. The plants of the American varieties are usually spaced 9 to 10 feet apart in the row with the rows 10 feet apart. When the Scuppernong and similar sorts are grown on a trellis, they are usually set 10 feet apart each way and later thinned out to 20 feet apart in the row. Less vigorous varieties may be set at closer distances with good success.

The soil should be well prepared before planting the vines. Injured or straggling roots should be cut off before setting. Other than this, little root pruning is necessary. The hole should be dug large enough to permit all the roots to spread out nicely. The vines should be set at the same depth as they were in the nursery row, or slightly deeper. After the plant is set, the top should be cut back to the best cane, leaving two or three buds on this one to furnish the current year's growth.

In filling the hole, fine topsoil of good fertility should be first sifted around the roots and packed tightly with the hands taking care to keep the roots well spread. After the roots are covered, the soil should be well tramped in order to keep the roots from drying out. When the setting is complete the hole should be filled to the level of the ground and well firmed.

Training

The training of grape vines has in the past, particularly in the Old World, taken on the form of many artistic designs. However, for commercial production certain methods of training "vines" have come into general practice in this country because they give the maximum yield of high-quality fruit. These forms are also well adapted to the home garden grower and are easily accomplished.

The American varieties such as Concord, Niagara and Delaware may be trained according to one of three systems: (1) the fan system, (2) the single-stem four-cane kniffin system and (3) the Munson system. A trellis support is required in all three systems. In the fan system, a well spread Y-trunk with each arm extending up to the level of the lowest wire is selected. From the two arms of the "Y," 4 or 5 canes are selected and trained up on the three wires in a fan shape. The remainder is pruned off.

Under the kniffin system a permanent trunk is trained to the upper of

(Continued on page 22)

STATE NEWS

(Continued from page 14)

MASSACHUSETTS—Highlights of the Massachusetts Fruit Growers Association meeting, to be held January 3-4, 1945, at Worcester, include addresses by Porter R. Taylor, Cooperative Fruit and Vegetable Association, Washington, D. C.; Professor J. H. Gourley, Ohio Experiment Station; Professor R. M. Smock, New York Experiment Station. Additional important items on the program are round tables on growers' problems, including orchard management, fertilizer, pest control materials, labor, containers, etc. The popular one-half day question and answer session inaugurated last year will be featured again.

Massachusetts farm storage for apples is increasing steadily. Previous to 1943, country point cold storage for apples in Massachusetts totaled approximately 950,000 bushels capacity. During 1943 and 1944, this total has been increased by approximately 325,000 bushels. Growers so far have indicated desire to make such storages during 1944 and 1945 for use on the 1945 crop for a total of somewhat more than 200,000 bushels additional capacity.

A number of McIntosh growers have contributed $5000 toward a thorough experiment of the adaptability of the McIntosh apple to processing. It is hoped that advantage may be taken of the peculiar qualities of this variety to develop valuable new products.—Lawrence Southwick, *Massachusetts State College.*

VIRGINIA.—Apples are all harvested and put away and the growers enjoyed a fair year after an extreme drought which cut the crop materially.

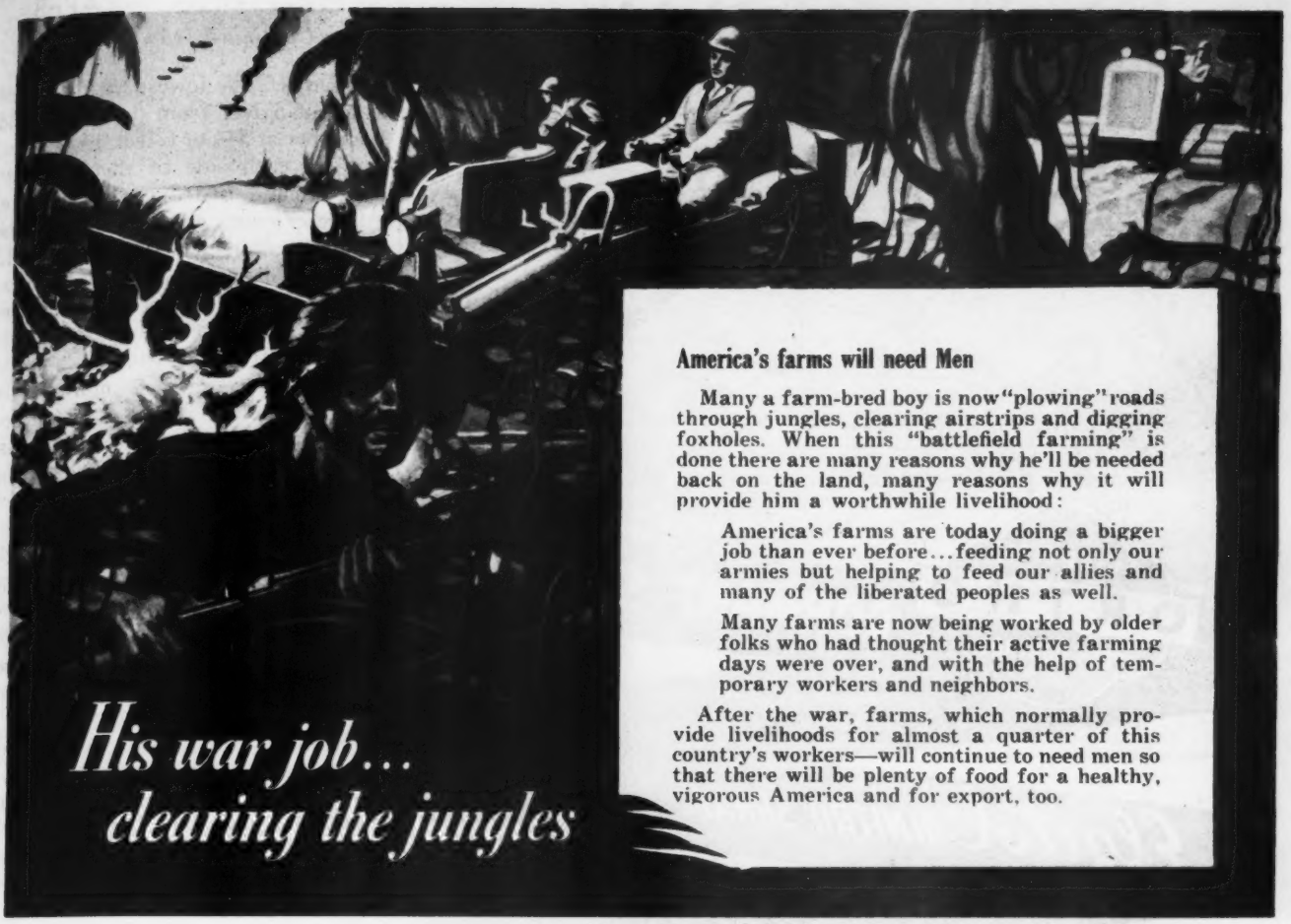
Now all thoughts are on the joint meeting of the American Pomological Society and the Virginia State Horticultural Society, December 5-7, at the Hotel Roanoke, Roanoke, Virginia. A strong program has been put together through the efforts of the two organizations and includes such notable speakers as: T. J. Talbert, President of the American Pomological Society; H. L. Lantz, Ames, Iowa, who will discuss "Fruit Breeding"; M. J. Dorsey, Head, Dept. of Horticulture, Univ. of Ill., will talk on "Peach Growing"; John T. Bregger, Orchard Erosion Investigations, Clemson, S. C., "Conserving Moisture."

Samuel Fraser, Sec'y, International Apple Association, will be among the speakers who will address the meeting on Wednesday, Dec. 6. In the evening there will be a dance. Further talks will be presented Thursday morning and the afternoon will be devoted to discussions on "Codling Moth and DDT."—W. S. Campfield, *Staunton.*

MAINE—At the Maine State Pomological Society's annual meeting, Feb. 2, Lewiston, one address will tell of the marked success in satisfying the magnesium needs of apple by spray applications of Epsom Salts. With 20 lbs. in 100 gals., two applications gave definite improvement; three practically eliminated the leaf scorch condition and the premature defoliation which occurred on untreated trees.

The Russell orchard at Kents Hill, where magnesium deficiency was first recognized and investigated in this State, was entirely treated this year and the 1944 crop is reported to be of the finest quality in many years; other instances of this kind could be cited.

The sudden and untimely death of Ralph Campbell, Manager of the Saunders Orchard, Greene, recently saddened his many friends among Maine's orchardists. —J. H. Waring, *Prof. of Hort., Orono.*



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GROWING GRAPES

(Continued from page 20)

two wires. The lowest wire is spaced at about 3 feet from the ground and the upper at 5½ or 6 feet. Four canes, two on each side of the trunk are selected and tied, one to each wire. All other canes are removed, and the four remaining cut back to 8 to 12 buds per cane. This is the best system for Concord. For home vineyards, the Munson system is especially desirable. It is also widely adapted to grape growing in the Southwest. In this system two wires are stretched over the ends of 2x4 wood crosspieces 2 feet long fastened to the top of posts 4 to 4½ feet high. A third wire, about 6 inches below the others is fastened to the posts. A single trunk is trained to the lower wire and the canes are selected from spurs at this point and trained on the two top wires. Usually four canes are chosen, one for each wire, extending in opposite directions from the trunk.

Number 9 or 10 wire may be used in any of the systems. With arbors, a modification of any of the systems may be used to obtain the desired effects. It requires from 3 to 4 years to completely train a vine to any of the methods described above.

With the European varieties such as Thompson Seedless and Malaga, four years are required to completely train the vine. Two systems are in general practice. They are the vase system and the two-wire trellis system. The former consists of an upright arm or stem 18 to 24 inches high and supplied at the top with 4 or 5 arms each 6 to 18 inches long. One or more spurs of one-year-old wood are left near the end of each arm to produce the fruit and foliage. Stakes 4 to 6 feet high are sufficient support for the first 6 to 10 years after which the vines are self-supporting. This is the most common system used and produces a bush form of vine that is easily cared for.

The two-wire trellis system is very similar to the kniffin system used with the American varieties. The wires are stretched along the row at 34 and 46 inches from the ground with a stake at each plant. This system is best used with the Thompson Seedless variety.

Overhead-arbor or horizontal systems of training have found great favor with growers of Muscadine grapes. The overhead-arbor system simply consists of training the vines on overhead wire supports. A post is set at each vine and a single trunk is

tied to it. From this trunk are selected the canes to cover the arbor overhead. The horizontal system is very similar to the kniffin system practiced with the American grape.

Pruning

All grape vines must be pruned annually to encourage good yields, size and quality of fruit. In pruning all types of grapes it should be kept in mind that the fruit is born on one-year-old wood or canes. Therefore, it is important to leave an adequate amount of one-year-old wood to carry the fruiting buds from year to year. Those canes of medium size, about ¼ inch in diameter produce the best quality and largest yields of fruit. Mature vigorous vines of the American varieties may carry 40 buds or more after pruning. It is important to leave spurs at the base of the canes from which shoots may develop for the fruiting wood the following year. The Muscadine varieties are pruned in much the same manner as the American species.

Pruning of the grape may be done any time after leaf fall and before the buds open in the spring. The early spring months, especially March, may be best in some areas since those canes that may be winter killed can be easily detected at that time and removed. With the Muscadine grapes pruning is most satisfactorily accomplished in November, after shedding of the leaves; this avoids severe bleeding.

Pruning of the European grape varies somewhat with the system of training as previously indicated. With the vase form system, pruning the canes back to rather short spurs is practiced during winter. These spurs give rise to fruiting canes the following spring. In cane pruning, only two arms on each side of the vine are needed. After the vines are mature, 2 or 4 canes are retained for fruiting the following year. Each of the fruiting canes should possess from 8 to 15 buds. All old fruit canes and those new canes not used should be removed each year. Summer pruning is also practiced with this type of grape. This consists of removal of water sprouts from the trunk and from below the ground, removal of water sprouts from the branches and arms, pinching off the growing tip of very vigorous shoots, removal of 1 or 2 feet of the end of a growing shoot. The latter is usually done in June or July and for the purpose of preventing breakage of the vines due to winds. Sometimes leaves in the head of the vine are removed in order to facilitate coloring of certain varieties.

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A P S

FRUIT BREEDING

By H. L. LANTZ, Sec'y

THE fruit industry is eagerly looking forward to the time when new pesticides will be available for the control of the fruit grower's No. 1 enemy—codling moth. Whether the much-talked-about DDT can be safely used to control codling moth is a question to which every fruit grower wants an answer. Last year at the St. Louis convention, during the panel discussion on codling moth control, growers and pest experts made an estimate that the codling moth cost fruit growers in damaged fruit, plus the cost of spraying, at least forty million dollars per year.

When the war is over, the indications are that an era of fruit tree planting will be at hand. Fruit breeding projects by many of the state agricultural experiment stations and by the U.S.D.A., as well as by a considerable number of amateur fruit breeders, have led to the origination of a large number of new fruit varieties. Many of these have been named and introduced to the trade, and more are on the way. Comparatively few of the newcomers will survive the rigid tests of competitive trials, but some will doubtlessly survive to become important commercial varieties. The great advances in American horticulture have been due to the introduction of new and improved varieties, aided of course by tremendous advances made in cultural practices, storage, transportation, and marketing.

During the past twenty-five or more years, fruit breeding has made a tremendous contribution to the fruit industry of this country. Every one of our leading strawberry varieties are the result, directly or indirectly, of skillful fruit breeding. In the case of raspberries, the breeding, testing and introduction of new sorts such as Latham and Chief from Minnesota; Taylor, Sodus, Newburgh and others from New York; Tahoma and Washington from Washington; Sunrise and others from U.S.D.A., are examples of new varieties which are now commanding first rank attention as commercial varieties. In small fruits, the breeding of new and successful varieties is much more spectacular than is true in the tree fruits because of the time element involved in testing.

In plums for the middlewest, the revolution in varieties is almost as spectacular. Twenty-five to thirty years ago, midwest plum varieties consisted largely of selections from the native plum, Prunus americana. During the early twenties, new varieties were produced by making interspecies crosses between the hardy native plum and the Japanese plum, P. salicina. These new hybrids made a sudden and dramatic appearance. Such varieties as Waneta, Kahinta, from South Dakota; Underwood, Monitor, Ember, Superior, Redcoat and others from Minnesota, have practically and effectively displaced the old-time native varieties in the middlewest. Millions of trees of these new varieties have been propagated by nurseries and sold to home owners and orchardists. The indications now point to the possibility of developing much hardier plums of the European type, P. domestica, which will thrive in the colder areas of the north. The Stanley prune from the New York station is an example.

In peaches, Elberta has long been pre-eminent as a commercial variety. Vigorous peach breeding activities in New Jersey, Michigan, Illinois, Canada and the U.S.D.A., are responsible for the breeding and introduction of a long list of new varieties, some of which are now established as commercial sorts.

With the apple, pear, cherry, and the prune, it requires more time to breed and adequately test new varieties. The great amount of breeding work being done with these fruits will, in the end, probably be as spectacular as have been the results achieved in the breeding of the other fruits mentioned above. Cortland, produced by crossing Ben Davis and McIntosh, and introduced by the New York Agricultural Experiment Station, has made a place for itself as a commercial variety. Haralson, a seedling of Malinda, originated by the Minnesota Station, has proved to be entirely successful for northern plantings. Edgewood, Secor, and Hawkeye Greening, originated by the Iowa Station, have been making some progress in the middlewest.

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DATES in the UNITED STATES

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ing favor with an increasing number of consumers throughout the country. The war has brought high prices for dates but also many headaches because of uncertainties of labor and materials. Most growers would prefer more reasonable profits under more stabilized conditions of operation.

As with most other fruit crops, the biggest uncertainty in the production of dates is the weather. Rain occurring any time during late summer and early fall is the greatest hazard to date growing in the United States. Even under the most favorable conditions in Coachella Valley there have been heavy losses of fruit about one out of three years since acreage production began. Paper covers placed over the fruit bunches in late summer help to minimize losses and often prevent damage from a single shower when clear weather follows. But after a week or more of damp cloudy weather, fruit rots begin to develop against which the covers afford no protection. Losses of half or more of the crop are not uncommon.

Climatic conditions restrict the extension of date culture and the planting of different varieties. While the date palm itself will grow in any subtropical climate where prolonged temperatures below 20° F. are not of frequent occurrence, commercial fruit production is possible only where there is a long hot, growing season with low humidity while the fruit is ripening. Thus, in Coachella Valley, California, the annual rainfall is only slightly above 3 inches and the mean maximum temperatures during summer and early fall are: July, 107° F.; August, 106° F.; September, 101° F.; and October, 91° F. Other parts of the Colorado Desert and the Lower Colorado River Valley are very similar climatically and possibilities for date culture have been demonstrated by scattered plantings throughout this region.

Most of the date acreage in Arizona is in Salt River Valley, the State's largest agricultural area. These date plantings have been ventures, mostly secondary to other already established agricultural industries. Climatic conditions here

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GROWING GRAPES

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Culture

The systems of culture designed for the grape are fairly uniform throughout the country. In general, cultivating is for the purpose of controlling weeds, to incorporate organic matter with the soil, and to aid in aeration and the penetration of rain. In irrigated sections it aids in preparing the land for irrigation.

The general mode of culture is to clean cultivate the vineyard during the early summer months followed by a cover crop during winter. This adds organic matter and aids in keeping the soil in a state of high productivity. Where rye can be grown it serves as an excellent winter cover crop which may be disced into the soil in the spring. Crops for this purpose may be selected from a list of those grasses and legumes grown in the different sections of the nation.

Grapes usually respond favorably to applications of nitrogen fertilizer, such as sulfate of ammonia. This fertilizer may be applied at the rate of one-third to one-half pound per mature vine or 150 to 350 pounds per acre. The other fertilizer elements, potash and phosphorus, are seldom needed in grape plantings. Manure, when available, may be applied with advantage.

Diseases and Insects

To reap an abundant harvest of high-quality fruit from the grape requires some attention to disease and insect pests. In the states east of the Rocky Mountains many insects attack both the vine and fruit, but the most troublesome is probably the *grape berry moth*. It is the larvae of this insect that cause wormy grapes.

The small elongate, pale green insect, marked with yellow and red, that is seen jumping from the grape leaf when disturbed is the *grape leaf-hopper*. It attacks all grape vines and does considerable damage by sucking the sap from the underside of the leaf. Other insects are only of minor importance except in special areas.

Two diseases cause considerable loss to growers of American grapes. These are *black rot* and *downy mildew*. Fruits affected with black rot first begin to rot, then blacken, shrivel, and later are covered with tiny black dots. Similar areas are seen on infected leaves. Those leaves showing indefinite yellowish areas above and downy white patches beneath are infected with the downy mildew fungus.

The history of spraying grapes is virtually the history of bordeaux mixture, for this mixture was accidentally discovered as a control of grape diseases in France in 1882. Two or three sprays are usually sufficient to give good control of grape diseases and insects. The first spray should be applied just before the blossom buds open, when the new shoots are from 12 to 18 inches long. This spray consists of a 6-8-100 bordeaux mixture. That is, 6 pounds of blue vitriol (copper sulfate) and 8 pounds of fresh hydrated lime are mixed with 100 gallons of water. It takes about 150 gallons of this mixture to cover an acre of grapes. This application is for the control of black rot and downy mildew.

The second spray is applied immediately after the petals fall from the blossoms. This is very important in controlling the berry moth. A bordeaux mixture of 4-6-100 mixed the same as above is used this time. To each 100 gallons of this mixture are added 3 pounds of lead arsenate and 3 quarts of summer spray oil. The summer spray oil may be replaced with 2 pounds of rosin fish oil soap and ½ pint of kerosene if the oil cannot be obtained. One pint of Nicotine

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DATES IN THE UNITED STATES

(Continued from page 24)

are less favorable to date culture than in the Colorado Desert and the Lower Colorado River Valley, as U. S. Weather Bureau records show that rain during the critical ripening period, August to November inclusive, occurs about three times as often in Salt River Valley. Fruit losses from this source are correspondingly greater and picking and packing costs higher.

Recent experiments by the U. S. Department of Agriculture in cooperation with the Texas Agricultural Experiment Station indicate that some of the earlier-ripening and more rain-tolerant imported varieties may mature fruit in the so-called "Winter Garden" area of Texas from Crystal City to Laredo, but only small plantings for local consumption would be justified as conditions are not favorable for large-scale commercial production. In addition to fruit losses from rain damage in Texas, there is another handicap. Because of higher relative humidity date palms are infected with graphiola, a fungus that attacks the foliage and reduces the leaf area which in turn reduces flowering and fruiting.

Climatic conditions in portions of the San Joaquin Valley of California are more-or-less comparable to those of Salt River Valley, Arizona, but no serious attempts have been made to grow dates in this region. Seedling date palms are to be found along the Pacific slope of Southern California and in the warmer parts of all the Gulf States. In the drier, warmer seasons edible fruit is occasionally produced. Such fruit is inferior to the better imported varieties, but may be of value for home use.

Variety adaptations play an important part in the extension of date culture. Such factors as degree of tolerance of rain and high humidity, time of ripening, and soil preference must be considered with reference to local conditions. For instance, the Deglet Noor, a late-ripening date from Algeria and the leading commercial variety in the United States, has a very narrow range of adaptation. Deglet Noor comprises 85 percent of the palm population in Coachella Valley, but it has not been grown successfully anywhere else; even slight increases in rainfall and humidity affect the fruit adversely and it is also lacking in quality if grown on heavy soils or where there is any considerable amount of salt or alkali. On the other hand, the Khadrawy, an early-ripening date from Iraq and the second most important variety in the United States, has been more widely planted than any other variety and does well under a rather wide range of climatic and soil conditions. The next three most important varieties at the present time are Saidy, Zahidi and Halawy. Several other varieties are being grown to some extent in different localities. A few more recently imported varieties are being tested by the U. S. Department of Agriculture and may become candidates for commercial favor within the next few years.

Very rapid expansion of the date industry is prevented by the fact that dates cannot be budded or grafted as is the case with apples, peaches and other more familiar fruits. Varieties can be propagated only by the offshoots or suckers that are produced in the axils of the leaves mostly during the early years of the palm's life. When these offshoots are 4 to 6 years old and have produced roots, they are cut and planted out with an orchard spacing usually of 30 x 30 feet. Young palms should produce a small commercial crop the fifth year after planting and reach full production of 100 to 300 pounds per palm at 10 to 15 years according to variety and cultural conditions. Water requirements are relatively high—as much as 120 acre-inches are applied annually to bearing gardens in Coachella Valley. Pruning is confined mostly to the removal of the older leaves when they begin to die after the third or fourth year.

One unique operation in date culture is pollination. It is necessary because the fruit-bearing flowers are not borne on the same palms as those that produce pollen and because one good male palm will produce enough pollen for 100 or more female palms. The operation is a simple one, but must be done within four or five days after each female flower cluster begins to break thru its enveloping case or spathe. Usually three or four freshly cut strands from a male

flower cluster are placed among the female strands and held in place with a string around the pollinated cluster tied in a slipknot with sufficient length of the free end to permit later adjustment to the maximum size of the bunch. The dried pollen may be used satisfactorily throughout the season and it is quite often dusted on small pieces of cotton for use when fresh male flowers are not available. A few growers sift the pollen and apply it with insect dusters.

Commercially it has been found desirable to thin the fruit on every bunch of dates in addition to limiting the number of bunches according to the age and vigor of the palm. From half to three-fourths of the fruit on a bunch are removed as early as possible.

The harvesting of dates becomes somewhat of a problem as palms become older and higher. Various types of ladders and platforms are used as well as a picking belt with a chain passed around the bases of several green leaves in such a way as to suspend the laborer beneath or at the side of the bunches to be picked.

Modern packing house facilities have been developed for handling the fruit. This involves principally fumigation, cleaning, grading and packing. Fruit too soft is dried and that too dry is softened by further conditioning in rooms of controlled temperature and humidity. Such rooms may also be operated for the further maturation of fruit picked before it is fully ripe.

At the present time there are no serious insect pests or diseases. Date mite, a near relative of the citrus "red spider," occasionally causes some damage but is easily controlled by dusting with sulfur. One fungous disease, Omphalia root rot, is a problem in a few gardens, but its extension can be avoided by planting offshoots from only healthy palms well-removed from infected areas.

The date industry has now passed the experimental and promotional stages and appears to be on the verge of a period of normal, steady growth based on past experience and future market trends. In the near future half a million acres of new land in the Lower Colorado River Valley and the Colorado Desert will be brought under cultivation by irrigation projects either completed or nearing completion in connection with the Boulder Dam series. With reasonable care in the selection of varieties and soil, prospects are favorable for the further development of commercial date culture in this area.

• NEW BULLETINS •

PURDUE University's Department of Agricultural Extension, Lafayette, Indiana, has issued some new interesting booklets:

WARTIME PEACH PRODUCTION, Leaflet No. 248, by Monroe McCown,

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LETTERS

(Continued from page 5)

pamphlet in stock, or can you possibly tell me where it may be obtained?

Hinsdale, Ill. Alphonse B. Jagminas

We are glad to advise you and other readers, who may be interested, that Dr. J. K. Shaw, Mass. State College, Amherst, Mass., has a good supply of Bulletin 403 on hand. This is the bulletin to which you refer. It is available upon written request direct to him.—Editor.

MEETINGS and EXHIBITS

(Continued from page 5)

Jan. 23—Vermont State Horticultural Society annual meeting in the Memorial Auditorium at Burlington.—Chas. H. Blasberg, Sec'y, Burlington.

Jan. 23-24—Annual meeting of the Tennessee Nurserymen's Association at Hotel Hermitage, Nashville.

Jan. 24-26—Eastern meeting of the New York State Horticultural Society at Kingston.—H. M. Putnam, Assistant Sec'y, Lyons.

Jan. 25-26—Annual convention of the Tennessee State Horticultural Society at Hotel Hermitage, Nashville.—G. M. Bentley, Sec'y, Knoxville.

Jan. 27—Annual meeting of the Tennessee State Beekeepers' Association at Hotel Hermitage, Nashville.

Feb. 8-9—Annual meeting of the Kansas State Horticultural Society at the Kansas State College, Manhattan.—Geo. W. Kinkead, Sec'y, Topeka.

INCOME TAX

(Continued from page 16)

For example, if a farmer purchased a tractor for $1,000 on July 1, 1940, and claimed a depreciation in that year of $50, and $100 in the years 1941, 1942, 1943 (total $350), and sold the tractor in 1944 for $2,000, he would only have to report as income, 50% of the gain of $1,350—or $675.

If the tractor had cost him $2,000 on July 1, 1940, and he claimed depreciation of $100 for that year, and $200 for each of the years, 1941, 1942, 1943 (total $700), and sold the tractor for $1,000 in 1944, he would have a loss of $300, all of which he could take credit for in 1944.

In the event the farmer has made a profit for the year 1944, and has had a loss in the year 1943 or 1942, he may take credit for the losses for the years 1942 and 1943, or either of them. However, in the event he has a profit in the year 1944, and pays his tax and has a loss in the year 1945 or 1946, he may then make an amended return for 1944, and get credit for the losses in either of the years 1945 or 1946. If the profit of 1944 is wiped out by the losses of 1945 or 1946, the government will refund him the tax paid in 1944. On the other hand, if he shows a loss in 1944, and a profit in 1942 and 1943, he may now file an amended return for either of those two years where he showed a profit, and take credit for the loss sustained in 1944. By the same rule, if he has a loss in 1944, and a profit in 1945 or 1946, he may take credit on his return for either of those two years for the loss he has in 1944. A taxpayer may carry the losses or profits forwards or backwards for a period of 2 years from the time he files his current income tax return.

A new tax, called a normal tax, has been substituted for the victory tax. It amounts to 3% of the net income after the deduction for personal exemption. The income tax and surtax, this year are substantially the same as last year. The combined taxes for 1944 are practically the same as for 1943. The details, showing computation of the tax, are shown on the return forms, and instructions accompanying same.

—FRANK E. TROBAUGH

APPLE RUSH, by Katherine Southwick Keeler, is a simple charming story about the apple harvest. It is written for juveniles and it contains beautiful red and green drawings. The book is an ideal Christmas present for children. Price $2.00

GROWING GRAPES

Continued from page 25)

sulphate is included in both after-bloom sprays but not in the pre-bloom.

About 10 days after the petal fall spray another application should be given the vineyard. The spray mixture is made up exactly as the petal fall mixture.

The Muscadine and European grapes are seldom attacked by any of the above diseases and insects outside of leafhoppers. The latter varieties are frequently troubled with *powdery mildew*. It is characterized by curling and withering of the leaves in spring and early summer, followed by dropping, discoloration and splitting of the berries. The disease may be controlled by dusting the vines with very finely divided sulfur.

The *phylloxera* is probably the most serious pest of Old World grapes. The insect attacks only the roots of the vine, and once the vineyard becomes infested, little or nothing can be done to control it. Certain American species are quite resistant to this insect and herein lies its control. By grafting or budding the desired variety of European grape upon an American rootstock that is resistant, the trouble can be eliminated. This is being done by nurseries propagating the Old World grapes and such stock should be purchased and planted wherever trouble with the phylloxera is anticipated. The breeding of resistant European and hybrid varieties is also in progress and some ought to be given a trial.

To a beginner in grape growing, either for home or commercial use, the above discussion may seem a bit complicated. But we must remember that modern fruit growing must combine both art and science if any degree of perfection is to be attained. The amount and quality of fruit at harvest is a sure measure of the time and effort expended during the growing and in the care of the vine.

A. P. S.

(Continued from page 24)

Many other new sorts from the various experiment stations, both here and in Canada, are still undergoing extended testing. There seems little doubt but that sooner or later new varieties will be originated by breeding with the characteristics of superior hardiness and disease resistance, better production, with fruits of better average size and full red color, and the kind of quality that meets consumer demands.

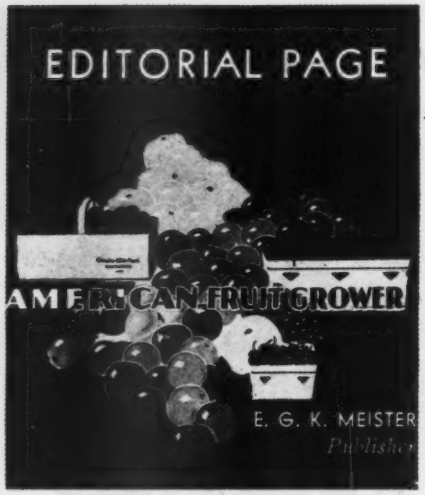
We, as fruit growers, dare not ignore new varieties. We should be new fruit testers.

WINCHESTER MARKET

(Continued from page 18)

they are grown. Use maximum water without this sunshine and the flavor and vitamin quality of fruit would inevitably decline, he contends.

But a strong case for eventual irrigation in some form is made out by Carroll Miller, manager of the Appalachian Apple Service. Mr. Miller points out that during practically half of the years Shenandoah apple growers experience drouth at some time during the growing season, and that crops are almost never grown without some water shortage. Washington growers, he says, can get 1,000 bushels of better-sized apples to an acre where Shenandoah growers can hope for no more than 300. With capital for irrigation systems now obtainable at lower interest rates than formerly, he thinks that Shenandoah apple growers must soon face the problem of irrigation more seriously than they have in the past. The War Department, he points out, completed some 15 years ago studies for 12 major dams along the Shenandoah river and many smaller ones. These dams were studied with an eye to hydro-electric development but would lend themselves just as well to irrigation.



Government Controls

DURING the present war period the Government has taken over the price controls of agricultural commodities on a scale heretofore unkown. This gesture has been good for it has placed price floors, or the minimum support prices which may be set for agricultural commodities, and it has set up price ceilings, or the maximum prices that may be obtained for agricultural commodities. Both forms of control set demarcations between which hover the right kind of prices for both the agricultural grower and the consumer.

Significant changes are likely to occur in the effective supply and demand situation for certain agricultural commodities after V-E Day, and the problem of maintaining price floors as well as price ceilings for the two years following the termination of the War may prove to be a difficult task.

The law requires that price controls for agricultural commodities be established and maintained jointly by the War Food Administrator and the Price Administrator, but policy rather than law will probably lead the way in the future.

Federal Ins. for Growers

PROPOSALS, now being made through the Social Security Board of the Federal Security Agency and other channels to establish Federal social insurance for farmers and fruit growers, are to be commended. Although millions of Americans in specified industries are eligible for this insurance, farm workers and farm operators cannot yet buy Federal social insurance. They, like others, face the same hazards of injury, sickness, disability, old age, and death.

It has been conceded generally that the rural businessman, the farmer, can weather his financial difficulties better than the urban worker because he lives more independently and his needs for immediate cash are not so promptly demanding. Nevertheless, if serious trouble arises, he should have the same benefits of protection as his city counterpart and, for that reason, it would be well to include him in all public welfare programs, such as Federal social insurance.

Such Are Names

THE simple beauty that invests the names of most fruits is apparent in a small item, currently appearing in TIME magazine: "In Yakima, Wash., Messrs. Lemon and Cherry arranged to sell the Plum Apartments on West Chestnut Street to an apple grower from Cherry Hill."

The effect would not be so euphonious if names of some other subject were used. For instance: In Yakima, Wash., Messrs. Halibut and Pickerel arranged to sell the Fishet Apartments on West Oyster Street to a fish monger from Sardine Hill.

Foreign Markets

SINCE in normal peace time approximately 10 per cent of America's fresh fruit crop was shipped to foreign markets, it is important to the fruit growers that this market be restored after the war. This 10 per cent means that ten cents of every dollar the fruit grower took for his crop came from sales to foreign customers. That is on fresh fruit. Figures of the Department of Commerce also show that 16 per cent of our canned fruit was shipped abroad in normal peace time.

The expansion of this market may be the answer to the surpluses that will occur if the fruit grower continues to produce on the accelerated scale that he has during the present war, when he has been meeting the needs of both civilian home consumption and vast Government commitments abroad.

Farm Real Estate

FARMERS and fruit growers who contemplate the purchase of new lands should bear in mind that the future income must pay for such indebtedness incurred now, and that farm real estate prices are at a level where they should be studied carefully. For instance, Indiana farm land prices have increased more than 60 per cent above the 1935-39 average, but, actually they are at about the same level now as they were in 1916-1917 and 1923, periods of land boom after World War I.

While the anticipated income of the farmer and fruit grower after World War II is expected to be evenly controlled and adjusted, it may not be in line to pay today's boosted farm real estate prices with tomorrow's income.

Apple Fragrance

EVERY once in a while someone rankles with new impetus the old question, "Which is the most fragrant of apples?"

An individual may take a firm stand on this question. He may deem as most odoriferous the apple he ate as a boy. It may be the one that grew in his grandfather's orchard, or it may be the one that tantalized his appetite from the corner of the teacher's desk when he was a boy in school.

The citybred man probably considers the Red Delicious the most perfumed because he is less familiar with the aromas of other apples. The Red Delicious is the one sold at the depot where he gets his train. The old lady who treks into his office with edibles for nickel sale has it in her basket. It is often on his table at home. But the fruit grower knows the perfume of many and his decision cannot be made so easily or so thoughtlessly.

However, the question in all probability will never be settled to the pleasure of all, so, perhaps, in the selection of the most fragrant of apples it would be best to fall back on the old adage i.e. "Each man to his own tastes."

The Christmas Stocking

THANKS to the fruit growers who have produced bumper crops this past year in the face of wartime restrictions and handicaps, the Christmas stocking on the mantelpiece need not go empty or limp this coming Christmas Eve. Many of the usual fillers will be missing. There will be little, if any, gum, cigarettes, chocolate bars, etc. These items long have been going to G. I. Joe and his buddies and the small measure that is left over does not stretch very far. But there is plenty of fruit and nuts to stuff into the toe and right on up to the stocking top, because the fruit growers have produced sufficient fruit for both Government and civilian needs this past crop year.

At a time when great sections of the world are suffering from malnutrition, even starvation, this is no little beneficence. For this reason we not only wish the fruit growers of America Merry Christmas and Happy New Year, but we also extend to them our grateful tribute.

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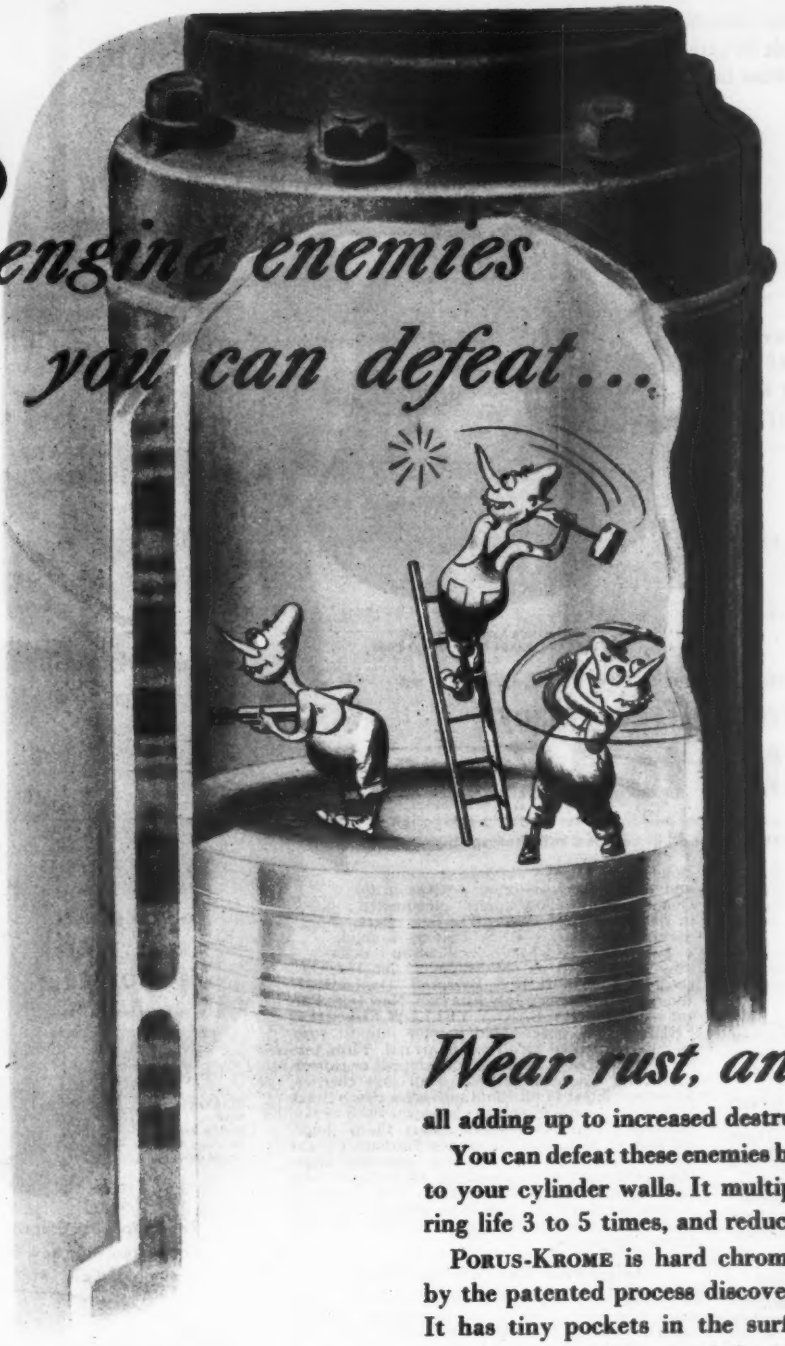

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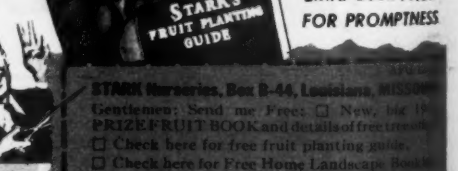

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